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UNISYS CORPORATION UNISYS WAY MAIL STATION: E8-114 BLUE BELL, PA 19424			EXAMINER HENRY, MARIEGEORGES A	
			ART UNIT 2455	PAPER NUMBER
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

# Office Action Summary

## Application No.

10/540,909

## Applicant(s)

LOBOZ ET AL.

## Examiner

MARIE GEORGES HENRY

## Art Unit

2455

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 24 June 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SF/08)  
Paper No(s)/Mail Date 6/24/2005
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

1. This is in response to the application filed on 06/24/2005. Claims 1-17 are pending. Claims 1-17 are related to accuracy of the estimation of computer resource usage.
2. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

### **Objection**

3. Claims 1 and 9 are objected because of the following informalities: The term 'utilisation' cited in the above claims has to be replaced by utilization. Appropriated correction is required.

Claims 2-8 are objected because of the following informalities: The term 'a method' cited in the above dependent claims has to be replaced by the method. Appropriated correction is required.

Claims 10-15 are objected because of the following informalities: The term 'a system' cited in the above dependent claims has to be replaced by the system. Appropriated correction is required.

Claim 17 is objected because of the following informalities: The term 'a computer' cited in the above claim has to be replaced by the computer. Appropriated correction is required.

**Claim Rejections - 35 USC § 101**

*Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirement of this title.*

4. Claim 1 is rejected under 35 U.S.C. 101 as not falling within one of the four statutory categories of invention. While the claims recite a series of steps or acts to be performed, a statutory "process" under 35 U.S.C. 101 must (1) be tied to particular machine, or (2) transform underlying subject matter (such as an article or material) to a different state or thing. See page 10 of In Re Bilski 88 USPQ2d 1385. The instant claim is neither positively tied to a particular machine that accomplishes the claimed method steps nor transforms underlying subject matter, and therefore do not qualify as a statutory process.

Claim 9 is rejected under 35 U.S.C. 101 because the system claim as described can be performed without any hardware device. For example, a data gathering means arranged to obtain utilization data can be done by software and a processing means arrange to process the first transaction can also be performed by software. The instant claim is not positively tied to a particular hardware device that accomplishes the claimed system steps, and therefore do not qualify as a statutory process.

Claim 16 is rejected under 35 U.S.C. 101, "a computer program arranged", a limitation cited in that claim, is software. That limitation needs a computer medium in order to be functional. M.P.E.P. 2601.1 Section I states, "Since a computer program is merely a set of instructions capable of being executed by a computer, the computer program itself it is not a process and USPTO personnel should treat a claim for a computer program, without the computer-reachable medium needed to realize the computer program's functionality, as nonstatutory functional descriptive material." It also is not clear if it is a computer readable medium or a method claim. In addition, it is depending on a method claim 1 that is rejected under 35 U.S.C. 101.

Claim 17 is rejected under 35 U.S.C. 101, as dependent of the independent claim 16 that is rejected.

**Claim Rejections - 35 USC § 102**

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

*(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.*

6. Claims 1, 3, 7-9, 11, and 15-17 are rejected under 35 U.S.C. 102(e) as being anticipated by **Al-Hilali et al. (US 6, 086, 618)**.

*Al-Hilali discloses the invention as claimed including accuracy of the estimation of computer resource usage (see abstract).*

Regarding claim 1, Al-Hilali discloses a method of improving the accuracy of an estimate of computing system resource usage, comprising the steps of, obtaining utilisation data of a system resource (Al-Hilali, column 8 , lines 39-40, a model for assessing total resource usage by the server application is disclosed ),

obtaining first transaction count data (Al-Hilali, column 12, lines 1-5, the number of log in and out is measured),

wherein the first transaction count data provides an indication of the number of transactions executed in a given time interval (Al-Hilali, column 11, lines 59-61, a number of transactions is made in a certain amount of time) ,

obtaining further transaction count data (Al-Hilali, column 12 , lines 14-16, the percent of CPU utilization is part of determining general system use ),

wherein the further transaction count data contains additional information relating to the execution time of a transaction (Al-Hilali, column 12, lines 12-21, the number of CPUs operating combined with the number of transactions made is related to an amount of time ), and

processing the transaction count data and the further transaction count data (Al-Hilali, column 12 , lines 1-7, a load generator continually makes log in and out request to a server application ),

wherein the processed data provides an improved estimate of the number of transactions executed during a given time interval (Al-Hilali, column 12, lines 8-10, a better result is obtained by focusing as close as possible to one application at the time ).

Regarding claim 3, Al-Hilali discloses a method in accordance with claim 1, wherein the further transaction count data comprises a data set containing the start time and finish time for each transaction executed (Al-Hilali, column 13, lines 23-62, an application is described with a starting time, log in, and an ended time, log off ).

Regarding claim 7, Al-Hilali discloses a method in accordance with claim 1, in addition Al-Hilali discloses a method wherein the further transaction data comprises a data set obtained by calculating the average transaction processing time for a given transaction type (Al-Hilali, column 18 , lines 19-24, an average of message by second is disclosed), and

using the average transaction processing time to derive an estimate of the transaction time to be allocated to an individual transaction within a given time interval (Al-Hilali, column 18 , lines 19-24, the time allocated for a user to access a mail server is disclosed ).

Regarding claim 8, Al-Hilali discloses a method in accordance with any one of the preceding claims, in addition Al-Hilali discloses a method wherein the method comprises the further step of applying a mathematical model to the estimate of the number of transactions to provide an estimate of resource usage for individual transaction types within the computing environment (Al-Hilali, column 17, lines 20-40, CPU usage is given by an equation depending on the number of message and rate of delivering the message).

Regarding claim 9, Al-Hilali discloses a computing system arranged to facilitate the estimation of resource usage within a computer environment, comprising a data gathering means arranged to obtain utilisation data of a computer resource and first transaction count data (Al-Hilali, column 8, lines 39-40, column 12, lines 1-5, a model for



assessing total resource usage by the server application, the number of log in and out, is disclosed),

wherein the first transaction count data provides an indication of the number of transactions executed in a given time interval (Al-Hilali, column 12, lines 1-5, column 11, lines 59-61, the number of log in and out is measured; a number of transactions is made in a certain amount of time) ,

further data gathering means arranged to gather further transaction count data (Al-Hilali, column 12, lines 14-16, the percent of CPU utilization is part of determining general system use),

wherein the further transaction count data contains additional information with regard to the execution time of a transaction (Al-Hilali, column 12, lines 12-21, the number of CPUs operating combined with the number of transactions made is based to an amount of time), and

processing means arranged to process the first transaction count data and the further transaction count data (Al-Hilali, column 12 , lines 1-7, a load generator continually makes log in and out requests to a server application ) ,

whereby the processed data provides an improved estimate of the number of transactions executed during a given time interval (Al-Hilali, column 12, lines 8-10, better result is obtained by focusing as close as possible to one application at the time ).

Regarding claim 11, Al-Hilali discloses a system in accordance with claim 9, in addition Al-Hilali discloses a system wherein the further data gathering means is arranged to log the start time and finish time for each transaction (Al-Hilali, column 13, lines 23-62, an application is described with a starting time, log in, and an ended time, log off ).

Regarding claim 15, Al-Hilali discloses a system in accordance with claim 9, in addition Al-Hilali discloses a system further comprising calculation means, arranged to calculate the average transaction processing time for a given transaction type (Al-Hilali, column 18 , lines 19-24, an average of e-mail message, transaction, is disclosed), and further calculate an estimate of the transaction time to be allocated to an individual transaction within a given time interval (Al-Hilali, column 18 , lines 19-24, the time allocated for a user to access a mail server is disclosed ).

Regarding claim 16, Al-Hilali discloses a computer program arranged, when loaded on a computing system, to implement the method of any one of claims 1 to 8 (Al-Hilali, column 13, lines 23-62, an application is described with a starting time, log in, and an ended time, log off ).

Regarding claim 17, Al-Hilali discloses a computer readable medium providing a computer program in accordance with claim 16 (Al-Hilali, column 13, lines 23-62, in a server, an application is described with a starting time, log in, and an ended time, log off).

**Claim Rejections - 35 USC § 103**

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

*(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.*

8. Claims 2, 4-6, 10, and 12-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Al- Hilali** in view of **Ding et al. (US 6, 691,067 B1)**

*Al-Hilali discloses the invention substantially as claimed including accuracy of the estimation of computer resource usage (see abstract).*

Regarding claim 2, Al-Hilali discloses a method in accordance with claim 1.

However, Al-Hilali does not disclose a method wherein the further transaction count data comprises a data set containing a count of the total number of transactions that have not finished execution within a given time interval.

Ding discloses a method wherein the further transaction count data comprises a data set containing a count of the total number of transactions that have not finished execution within a given time interval (Ding, column 13, lines 40-43, a collection and a sample of metric data are disclosed, the collection metric data is longer than the sampling metric data).

Therefore it would have been obvious for one having ordinary skill in the art at the time the invention was made to implement Ding collection sampling feature into Al-Hilali resources estimation computer method in order to create a resources estimation computer method with a collection sampling feature in order to have an estimation model that is as flexible as the sampling variations (Ding, column 2, lines 24-29).

Regarding claim 4, Al-Hilali discloses a method in accordance with claim 3.

However, Al-Hilali does not disclose a method wherein the data set is processed to determine a proportion of time expended by a transaction within the given time interval and an adjacent time interval.

Ding discloses a method wherein the data set is processed to determine a proportion of time expended by a transaction within the given time interval and an adjacent time interval (Ding, column 13, lines 40-43, a collection and a sample of metric data are disclosed, the collection metric data, the processing of data, that is longer than the sampling metric data continue beyond the sample).

Therefore it would have been obvious for one having ordinary skill in the art at the time the invention was made to implement Ding collection sampling feature into Al-Hilali resources estimation computer method in order create a resources estimation computer method with a collection sampling feature in order to have an estimation model that is as flexible as the sampling variations (Ding, column 2, lines 24-29).

Regarding claim 5, Al-Hilali discloses a method in accordance with claim 2.

However, Al-Hilali does not disclose a method wherein processing includes the step of allocating the count of the total number of transactions, by an appropriate proportion, between an adjacent time interval and the given time interval.

Ding discloses a method wherein processing includes the step of allocating the count of the total number of transactions, by an appropriate proportion,

between an adjacent time interval and the given time interval (Ding, column 13, lines 40-43, a collection and a sample of metric data are disclosed, the collection metric data when twice longer than the sampling metric data is a sample and an adjacent one).

Therefore it would have been obvious for one having ordinary skill in the art at the time the invention was made to implement Ding collection sampling feature into Al-Hilali resources estimation computer method in order create a resources estimation computer method with a collection sampling feature in order to have an estimation model that is as flexible as the sampling variations (Ding, column 2, lines 24-29).

Regarding claim 6, Al-Hilali discloses a method in accordance with claim 5.

However, Al-Hilali does not disclose a method wherein the appropriate proportion is 0.5.

Ding discloses a method wherein the appropriate proportion is 0.5 (Ding, column 13, lines 40-43, a collection and a sample of metric data are disclosed, the collection metric data when twice longer than the sampling metric data make the proportion equal to 0.5).

Therefore it would have been obvious for one having ordinary skill in the art at the time the invention was made to implement Ding collection sampling feature

into Al-Hilali resources estimation computer method in order to create a resources estimation computer method with a collection sampling feature in order to have an estimation model that is as flexible as the sampling variations (Ding, column 2, lines 24-29).

Regarding claim 10, Al-Hilali discloses a system in accordance with claim 9.

However, Al-Hilali does not disclose a system wherein the further data gathering means is arranged to obtain count data comprising the total number of transactions that have not finished execution within a given time interval.

Ding discloses a system wherein the further data gathering means is arranged to obtain count data comprising the total number of transactions that have not finished execution within a given time interval (Ding, column 13, lines 40-43, a collection and a sample of metric data are disclosed, the collection metric data is longer than the sampling metric data).

Therefore it would have been obvious for one having ordinary skill in the art at the time the invention was made to implement Ding collection sampling feature into Al-Hilali resources estimation computer method in order create a resources estimation computer method with a collection sampling feature in order to have an

estimation model that is as flexible as the sampling variations (Ding, column 2, lines 24-29).

Regarding claim 12, Al-Hilali discloses a system in accordance with claim 11.

However, Al-Hilali does not disclose a system wherein the processing means is arranged to process the data set to determine a proportion of time expended by a transaction within the given time interval and an adjacent time interval.

Ding discloses a system wherein the processing means is arranged to process the data set to determine a proportion of time expended by a transaction within the given time interval and an adjacent time interval (Ding, column 13, lines 40-43, a collection and a sample of metric data are disclosed, the collection metric data when twice longer than the sampling metric data is a sample and an adjacent one).

Therefore it would have been obvious for one having ordinary skill in the art at the time the invention was made to implement Ding collection sampling feature with Al-Hilali resources estimation computer method in order create a resources estimation computer method with a collection sampling feature in order to have an estimation model that is as flexible as the sampling variations (Ding, column 2, lines 24-29).



Regarding claim 13, Al-Hilali discloses a system in accordance with claim 10.

However, Al-Hilali does not disclose a system wherein the processing means is arranged to allocate the count of the total number of transactions, by an appropriate proportion, between an immediately preceding time interval and the given time interval.

Ding discloses a system wherein the processing means is arranged to allocate the count of the total number of transactions, by an appropriate proportion, between an immediately preceding time interval and the given time interval (Ding, column 13, lines 40-43, a collection and a sample of metric data are disclosed, the collection metric data is longer than the sampling metric data make the proportion equal to a number transactions between the sample number and the collection number).

Therefore it would have been obvious for one having ordinary skill in the art at the time the invention was made to implement Ding collection sampling feature with Al-Hilali resources estimation computer method in order create a resources estimation computer method with a collection sampling feature in order to have an estimation model that is as flexible as the sampling variations (Ding, column 2, lines 24-29).

Regarding claim 14, Al-Hilali discloses a method in accordance with claim 13.

However, Al-Hilali does not disclose a system wherein the appropriate proportion is 0.5.

Ding discloses a system wherein the appropriate proportion is 0.5 (Ding, column 13, lines 40-43, a collection and a sample of metric data are disclosed, the collection metric data when twice longer than the sampling metric data makes the proportion equal to 0.5).

Therefore it would have been obvious for one having ordinary skill in the art at the time the invention was made to implement Ding collection sampling feature with Al-Hilali resources estimation computer method in order create a resources estimation computer method with a collection sampling feature in order to have an estimation model that is as flexible as the sampling variations (Ding, column 2, lines 24-29).

9. The prior arts made of record and not relied upon are considered pertinent to applicant's disclosure. Aman et al. (US 5, 881, 238) is made part of the record because of the teaching of data counting. O'Brien et al. (US 6, 055,569) is made part of the record because of the teaching of system resource. Richardson et al. (US 6, 249,802 B1) is made part of the record because of the teaching of CPU load. Kraft et al. (US 6, 832, 239 B1) is made part of the record because of the teaching of downloading time.

Shiramizu et al. (US 5,475, 844) is made part of the record because of the teaching of resource utilization.

### **Conclusion**

10. Any inquiry concerning this communication from the examiner should be directed to Marie Georges Henry whose telephone number is (571) 270-3226. The examiner can normally be reached on Monday to Friday 7:30am - 4:00pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Saleh Najjar can be reached on (571) 272-4006. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Marie Georges Henry/  
Examiner, Art Unit 2455

/saleh najjar/

Supervisory Patent Examiner, Art Unit 2455